



Predicting daily streamflow using a parsimonious rainfall-runoff model finalised to water resources allocation in a Sicilian catchment

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This paper presents a real-time river flow forecasting application in the River Alcantara, a 400 km² catchment in eastern Sicily, Italy, using a method based on observed daily rainfall, quantitative daily forecasts of rainfall given by a regional numerical weather-prediction model, and rainfall-runoff simulation by the IAHCREs (Identification of Hydrographs And Components from Rainfall Evaporation and Streamflow), a spatially-lumped conceptual model that allows flexible schematizations of both surface and groundwater flow by combining channels and reservoirs in different ways using a parsimonious and not over-parameterised approach. The model requires only rainfall, streamflow and air temperature data for calibration and has been calibrated using a MonteCarlo procedure with uncertainty analysis. ..